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10/535,573	05/19/2005	Tetsujiro Kondo	450100-04821	7860

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EXAMINER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS,
WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>05 May 2009</u>.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
   closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-11</u> is/are pending in the application.

    4a) Of the above claim(s) <u>8-11</u> is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1-7</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage
         application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Applicant(s) Response to Official Action

[1]   The response filed on May 5, 2009 has been entered and made of record.

Response to Arguments/Amendments

[2]   Presented arguments have been fully considered, but are rendered moot in view of the new

ground(s) of rejection.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in
this country, more than one year prior to the date of application for patent in the United States.

[3]   Claims 1-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Kondo et al

("Kondo") [WO 02/13512 A1]. US 2003/0035594 A1 is used as a translation.

Regarding claim 1, Kondo meets the claim limitations, as follows:

An apparatus for processing an image signal which converts a first image signal *(i.e.*

input) constituted of plural items of pixel data into a second image signal *(i.e. output)*

constituted of plural items of pixel data, said apparatus comprising *[fig. 5]*: a plurality

of frame memory portions *(i.e. 513)* for storing pixel data of a plurality of

consecutive frames *(i.e. F_{n-1}, F_n, F_{n+1})* of the first image signal together with a motion

vector *(i.e. fig. 4B)* that corresponds to the pixel data and lies between mutually

adjacent frames *[figs. 4A-4C and 48]*; data selection means *(i.e. 24)* for selecting plural items of pixel data *(i.e. taps)* located respectively in a time directional periphery and a space directional periphery *(i.e. 13 pixels in different frames F_{n-1}, F_n, F_{n+1})* with respect to a target position *(i.e. black dot in F_n)* in the second image signal *(i.e. desired output pixel data for F_n)* based on the plurality of frames *(i.e. F_{n-1}, F_n, F_{n+1})* stored in the plurality of frame memory portions *(i.e. 513)* *[figs. 4A-4C, 5 and 48; paras. 0025-0026]*; and pixel data generation means *(i.e. 28)* for generating pixel data of the target position in the second image signal *(i.e. desired output pixel data for F_n)* by using the plural items of pixel data *(i.e. taps)* selected by the data selection means *(i.e. 24)* *[figs. 4A-4C, 5 and 48; para. 0028]*, wherein the data selection means selects: plural items of pixel data located in the space directional periphery *(i.e. adjacent pixels)* with respect to the target position *(i.e. desired pixel)* from the frame memory portion in which a current frame *(i.e. F_n)* in the first image signal is stored, said current frame corresponding to a frame in which the target position *(i.e. desired pixel)* in the second image signal *(i.e. desired pixel in output signal)* is present *[figs. 4A-4C, 5 and 48]*; and plural items of pixel data located in the space directional periphery *(i.e. adjacent pixels)* with respect to a position obtained by performing motion compensation *(i.e. fig. 4B)* on the target position by using the motion vector stored in the plurality of frame memory portions together with the pixel data, from the frame memory portions in which frames before and after the current frame *(i.e. F_{n-1}, F_{n+1})* are stored *[figs. 4A-4C, 5 and 48; para. 0026]*.

Regarding claim 2, Kondo meets the claim limitations, as follows:

The apparatus for processing an image signal according to claim 1, wherein the pixel

data generation means comprises: class detection means *(i.e. 25)* for detecting a class

to which the pixel data of the target position *(i.e. desired pixel location)* in the second

image signal *(i.e. output)* belongs *[para. 0022]*; coefficient data generation means *(i.e.*

26) for generating coefficient data for an estimation equation *(i.e. 28)* that

corresponds to the class detected by the class detection means *(i.e. 25)* *[fig. 5; paras.*

0023 and 0028]; and calculation means *(i.e. 28)* for obtaining, by calculations, the pixel

data of the target position in the second image signal *(i.e. desired pixel location in output*

signal) based on the estimation equation by using the coefficient data generated by the

coefficient data generation means *(i.e. 26)* and the plural items of pixel data selected

by the data selection means *(i.e. 27)* *[fig. 5; paras. 0023 and 0028]*.

Regarding claim 3, Kondo meets the claim limitations, as follows:

The apparatus for processing an image signal according to claim 2, wherein the class

detection means *(i.e. 25)* detects the class to which the pixel data of the target

position *(i.e. desired pixel location)* in the second image signal belongs, by using at least

the plural items of pixel data *(i.e. taps)* selected by the data selection means *(i.e. 24)*

[fig. 5; paras. 0023 and 0028].

Regarding claim 4, Kondo meets the claim limitations, as follows:

The apparatus for processing an image signal according to claim 1, wherein each of

the frame memory portions has a plurality of banks *(i.e. this is an inherent feature present*

in RAM); and wherein when the frame is divided in units of major block *(i.e. 13 pixels*

selected in 4A) in which a plurality of minor blocks *(i.e. pixels)* is arranged two-dimensionally, the minor blocks located at different positions in the major block are stored in each of the plurality of banks *(i.e. inherent in image storage in RAM) [para. 0025]*.

Regarding claims 5-7, all claimed limitations are set forth and rejected as per discussion for claim 1.

Contact Information

[4]   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mr. Sath V. Perungavoor whose telephone number is (571) 272-7455. The examiner can normally be reached on Monday to Friday from 8:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Matthew C. Bella whose telephone number is (571) 272-7778, can be reached on Monday to Friday from 9:00am to 5:00pm. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dated: July 14, 2009   /Sath V. Perungavoor/
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